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AUTHOR Stevenson, Jim
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ABSTRACT

Preliminary results of a study of the extent to which training health visitors in behavior modification techniques improves the effectiveness of their work with families of young children are presented. A total of 14 health visitors were recruited and assigned to training and delay-of-training groups. Selected from case loads, participating 3-year-old children were nominated by the health visitors as those likely to benefit from behavioral management intervention and those scoring high on a behavioral checklist which had been completed by their mothers. Three main comparisons were made: matched cases from trained and control group health visitors, intervention and non-intervention cases within the trained group, and all the families assessed from the caseload of trained and control health visitors. Reported findings concern (1) changes in mothers' responses on the past helpfulness of the health visitor, (2) changes in the total number of spontaneously mentioned problems, (3) changes in the Behavioural Screening Questionnaire Score, (4) mother's and father's irritability with the child, (5) fear of loss of self-control with the child, and (6) incidence of striking the child. The direction of the effects and those approaching or reaching significance all indicate greater change being associated with training. Tentative indications support the view that sleeping or eating problems are more likely to respond to health visitor intervention than more confrontational behavior problems. Four pages of references and five tables are provided. (RH)

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DEVELOPING PARENTING SKILLS THROUGH HEALTH VISITORS: PRELIMINARY RESULTS FROM AN EVALUATION STUDY

Jim Stevenson,

Dept. of Psychology,
University of Surrey,
Guildford, Surrey.

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1. INTRODUCTION

In this paper I will present the preliminary results from a collaborative study between a developmental psychologist (myself), a child psychiatrist (Dr. Veira Bailey) and a team of Health Visitors working in the Hounslow and Spelthorne District Health Authority (headed by Miss Caryl Simpson). The aim of the study is to evaluate how effectively health visitors can use a training course in behaviour modification to extend their involvement with families with young children. In particular the study attempts to establish whether such a training helps the Health Visitor to act preventively to minimise the later severity of incipient problems in the behaviour of the young child.

This attempt to evaluate the use of behaviour modification by health visitors with families with young children has its origins in a number of recent developments. Firstly, changes in the role and practice of health visitors have taken place in the recent past; in particular, it is recognised that they need to become involved in a wider range of problems than those concerned with physical health and nutrition.
Secondly, the growing realisation of the high prevalence of behaviour problems in young children in the community and their implications for later disturbed behaviour. Lastly the lack of evidence for effective treatment for disturbed behaviour at this later age has turned interest towards prevention as a more cost-effective approach.

1.1 Developments in health visitor training

The distinctive function of the health visitor has always been her orientation towards preventive health care. As part of the primary health care team she has taken particular responsibility for the expectant mother

and families with young children. To some extent demographic shifts towards a larger proportion of elderly persons in the population has created more demands on her time from this section of the community. Nevertheless the health visitor still spends proportionately more of her time with families of young children than with any other group (Wiseman, 1982).

Many mothers with young children find themselves ill-equipped to deal with the problems of raising young children. Such mothers are not restricted to groups traditionally recognised as 'at risk'; indeed many young teenage mothers (Kruk and Wolkind, 1983) and mothers who were themselves in care as young children (Quinton and Rutter, 1985) cope very successfully with their parenting role. However, many other mothers do feel themselves inadequate to cope with difficult behaviour in their preschoolers and often the health visitor is the only person to whom they can turn for advice and support. Even when family and friends are available they may not be used to obtain parenting advice through the mother's reluctance to discuss her difficulties with close relatives, fearing loss of face and possible criticism.

Various developments have taken place to help mothers to cope with the management of young children. Many of these have taken the form of community self-help and support groups (Pugh and De'Ath, 1984). There is however a complementary role to be played by educational, social and health services. Voluntary and self-help groups are necessarily only partial in the range of types of mother they contact. Servi[illegible]levelopments undertaken by professional groups can help to overcome this element of self-selection. The question then arises as to whether the current initial education and training of health visitors equip them for this task.

The professional training health visitors receive is primarily oriented towards physical illness and health care. Their initial professional experience of hospital based care reinforces this bias. This is not intended to denigrate such training nor to suggest that psychological aspects of patients' care are totally neglected. Rather the health visitor during her training as a nurse and later in health visiting is not provided with a theory or set of skills on which advice about behavioural management for mothers can be based. The emphasis in the health visitors' training on prevention of physical illness and on nutritional advice for mothers needs to be supplemented by an understanding of how to provide effective advice to mothers on problems concerned with their children's behaviour.

There have been a number of attempts to meet this training need for health visitors. At Bristol, the Child Development Project has been providing health visitors in a number of areas with educational material centred on behavioural management lines (Child Development Project, 1984). An attempt is also being made to evaluate the impact of this material on the effectiveness of health visiting. To date there are no results published to indicate the success of this approach. Sanger, Weir and Churchill (1981) have described the running of a support group for health visitors. This was organised so that after an initial introduction to behaviour modification, the health visitors met regularly together with a child psychiatrist to discuss their management of clients` problems using behavioural techniques. This group initially concentrated upon sleep disturbances in young children but gradually extended the range of problems taken on by the health visitor.

There is a developing consensus that it is particularly appropriate for

health visitors to attempt to deal with sleep disturbances in children. Douglas and Richman (1984) have published a guide for use by parents, health visitors and other care workers to help them cope with young children's sleep disorder. Others too have recognised sleep problems as ones where behaviourally trained health visitors have a specific role to play (Hewitt, 1981; Booth, 1985; Buchanan and Webster, 1982).

There have been a number of other behaviourally oriented training courses and collaborations between psychologists and health visitors (Bowler and Watson, 1984; Perkins and Linke, 1984; Sutton, 1981).

There have been other less specifically behaviourally oriented innovations in health visiting practice and primary health care. Hiskins (1981) has described the organisation by health visitors of mutual support groups for mothers. Accounts of similar groups for parents in primary care have been given by Rule and Adams (1981). Indeed the argument for greater involvement of health visitors in dealing with psychological problems has been recognised for some time (Maxwell, 1974; Haldane, Smith and Henderson, 1971).

1.2 The significance of preschool behaviour problems

Until recently relatively little was known about the prevalence and significance of behaviour problems in young children. The study by MacFarlane, Allen and Honzik (1954) was one of the few to systematically investigate difficult behaviour in a representative sample of children. In the past decade a number of epidemiological studies have been conducted on the population of preschool children (Links, 1983). One of these undertaken by Richman, Stevenson and Graham (1982) showed that a large percentage of the preschool population had behaviour problems - ranging

from 7% for marked problems to 20% for a more inclusive definition of difficult behaviour. Moreover these early disturbances were not transient; children with behaviour problems at 3 years were much more likely to show difficult behaviour at 8 years than other children. Subsequent work has replicated these findings both in this country (Hart, Bax and Jenkins, 1984) and in the USA in relation to both prevalence (Earls, 1980) and prognosis (Lerner, Inui, Trupin and Douglas, 1985). However, it must be recognised that other groups of children might be at risk for later behaviour problems. For example, Stevenson, Richman and Graham (1985) have shown that girls with <u>few</u> behavioural symptoms at 3 years are <u>more</u> vulnerable to disturbance at 8 years than girls with many early difficult behaviours. The aetiology of behaviour disturbance in young children is not well understood. However, an association is repeatedly found between aspects of family relationship, parenting behaviour and child problem behaviour (Richman, Stevenson and Graham, 1982; Lewis, Feiring, McGuffog and Jaskir, 1984). One particular association has been extensively investigated; that between maternal depression and child behaviour problems (e.g. Zajicek and deSalis, 1979; Stevenson, Bailey and Simpson, 1986; Ghodsian, Zajicek and Wolkind, 1984). Within the complex interrelationships between these family and child characteristics it is clear that depressed mothers are adversely influencing their child's behaviour. Mothers vary in their competence to respond sensitively to their children's behaviour. Depressed mothers cannot effectively use the competence they may have to cope with their child's behaviour (Pound, Cox, Puckering and Mills, 1985; Mills, Puckering, Pound and Cox, 1985; Field, 1985).

Regardless of the effects of biological or intrapsychic processes on the

young child's behaviour, the findings from these recent studies indicate that intervention to help mothers cope effectively with the management of their young child's behaviour could be a potent method of prevention of child psychopathology.

1.3 Evaluation of treatment of behaviour problems in young children

In general, professionals in child psychiatry have not been any more successful than colleagues in other branches of psychiatry and clinical psychology in establishing the effectiveness of their treatments (Rutter 1982a). With preschool children there is a paucity of well designed and controlled studies attempting to validate the therapeutic effectiveness of alternative treatments. When this has been tried the results are often disappointing. For example, the outcome was investigated after one year and five years for children attending a day centre for disturbed preschool children and their families. (Woollacott, Graham and Stevenson, 1976; Richman, Stevenson and Graham, 1983). In comparison with untreated controls these children, who had received exposure to this therapeutic milieu and whose mothers had received a variety of case work support, did not have significantly better outcome at age eight years.

1.4 The origins of the present study

The developments outlined above led us to believe that it was opportune to evaluate how effectively health visitors could adopt a behavioural approach to behaviour problems in young children. This was reinforced by the experience we had obtained in previous studies on behaviour disturbance in preschool children and in previous evaluations of community based prevention (Rutter 1982b).

There have been a number of American evaluation studies of prevention of child behaviour problems (Rickel, Dyhdalo and Smith, 1984). Among the most successful of these have been those that centred on intervention with the families of young children at home (Forehand, Walley and Furey, 1984). This reaffirms the findings from more cognitively oriented prevention efforts that the most effective programmes are those starting early, that involve the mothers in their implementation and that take place in the child's own home (Bronfenbrenner, 1976).

Examples of successful prevention were first reported in largely paediatric contexts (Cullen, 1975; Brazelton, 1962), although some community based studies were reported, e.g. Wahler and Erikson (1969). As with the majority of treatment evaluation studies on children these investigations used interventions based upon behavioural techniques.

It is more difficult to identify adequately designed and conducted trials of prevention that have been carried out in this country. Veira Bailey and I have attempted to evaluate the preventive effectiveness of post-natal mothers' groups attached to G.P. clinics. The trial consisted of randomly allocating mothers from six G.P. practices to an experimental or control condition. The experimental mothers were given the opportunity to attend fortnightly mothers support groups run by health visitors and other primary case workers. Both the experimental and control mothers and their children were systematically assessed at birth, eight months and 36 months. Very few significant benefits were identified for those mothers who attended the mothers groups (Stevenson and Bailey, 1986).

This was an exercise in primary prevention in that all types of mothers and children were given the opportunity to attend the groups, i.e. whether they

were experiencing child rearing difficulties or not. The main outcome measures were the mothers' mental state, child behaviour problems and child language development. Each of these was assessed using previously standardised and validated instruments. These primary prevention mothers support groups were therefore subjected to a rigorous evaluation using objective measures. On more subjective measures, such as mothers self-report of benefits obtained from group attendance, they were judged to have been of great assistance.

This experience leads us to conclude that in order to obtain significant effects on such objective measures as mothers mental state and child behaviour problems, more directive intervention strategies were required. It is also likely that the gains would be more substantial if a secondary preventive programme was instigated, ie. efforts are directed to those families where initial parenting difficulties are being experienced or the child is showing a very specific behaviour problem. In such a secondary preventive programme the onus is upon stopping the development of more major difficulties in situations where less significant problems are already present.

The strategy used in the present study is illustrated in Figure 1. This indicates that as well as aiming to provide a direct effect on later parenting through a generalisation of learning , it also possible that the intervention may have an indirect effect by making the parents less vulnerable to life events. This could help break into the spiral of effects linking maternal depression and child behaviour.

It is for these reasons that the present study was undertaken. It centres on directive interventions (i.e. based upon behaviour modification

principles) in families with incipient behaviour problems (i.e. in a secondary preventive programme) that takes place in the homes of children and which relies on the mothers to actively modify their own child's behaviour.

2. DESIGN OF THE STUDY

Health visitors were recruited from the Hounslow and Spelthorne District Health Authority to take part in the study. They were told that they might be allocated to the training course immediately (Train) or to be one of those with a delay before going on to the course (Delay). Once they agreed to be a member of either group, the health visitors were randomly allocated to the Train or Delay groups.

We recruited 14 health visitors interested in taking part in the study. None dropped out before allocation to Train or Delay was made. Therefore eventually there were 7 health visitors in the Train group and 7 in the Delay group. One health visitor subsequently moved from the area and was replaced in the control group by the replacement health visitor from her own health centre.

All health visitors were asked to provide lists of all children born between 1 July 1981 and 30 June 1982 in their case loads at November 1984. The health visitors then contacted the families of these three year olds and asked the mothers to complete a Behaviour Check List (BCL) (Richman 1977). This is a self-complete questionnaire of known validity and reliability for screening populations of young children for significant behaviour problems. When the health visitors had difficulties in obtaining

a BCL for children on their case load the research staff from the project made follow-up visits. Eventually a BCL was completed on 563 out of the 593 possible children (95%).

The next stage was for all the health visitors to nominate about 10 children with whom they thought behavioural management might be beneficial. The health visitors were re-assured that not all these nominated cases were necessarily going to have to be actively engaged in a behavioural programme. The point of nomination was that the research team would have a sample of children on whom detailed information could be obtained before active management started. The health visitors at this stage had not been introduced to behavioural techniques; indeed they didn't know whether they were in the Train or Delay group. It was necessary therefore to allow the health visitors to change their minds about which children and families it would be appropriate to work with. The nominations could therefore be added to during the course of subsequent training.

The nominated cases were supplemented by the sample of children who scored 10 and above on the BCL. This cut-off point had been previously validated against a more extensive instrument for identifying behaviour problems in young children. This sample of high scoring children were subject to the same interview procedures as the nominated cases. The reason for their inclusion was that they represented additional cases that the health visitors might subsequently opt to provide with a behavioural programme. Even if the health visitors do not actively manage these cases, they are children whose mothers are likely to seek health visitors advice concerning the child's behaviour. Within the evaluation they therefore can provide an assessment for a generalisation effect whereby trained health visitors may be better equipped to provide effective advice even when this falls short

of a formulated programme. Changes in behaviour in these high scoring children on the case loads of Train health visitors can be compared with changes in those on the caseloads of Delay health visitors in order to detect this generalisation effect of training. The design of the study is such that a similar comparison of changes can be made for the Delay group before and after training thus providing a within group (same health visitor) measure of training effectiveness.

After nomination the health visitors were randomly assigned to the Train or Delay training groups (an account of the training programme is given in Appendix 1). The nominated cases and the high BCL children were assessed during the course of a 1-2 hour interview with the mothers. These interviews were conducted by one of three specially recruited and trained part-time interviewers. An assessment was made of the child's behaviour, mother's mental state, family relationships and social and demographic characteristics were obtained.

All children of both the Train and Delay groups were then given a second assessment some 6 months later which replicated that made initially. The second interview included questions about the mother's reports of her contact with the health visitor over the preceding months.

The second phase of the study consisted of the replication for the Delay training group of the above procedure from giving the BCL to all children in the specified age range to second interview. To provide a longer term evaluation of the changes in behaviour in the children, the BCL is being given again one year after the second interview.

The overall design of the evaluation is given in Figure 2. The double arrows indicate the possible comparisons between changes in behaviour that

can be made. It can be seen that the study includes an internal replication of the changes produced by trained health visitors in families where they intervene and families from the same health visitors case loads where intervention have not taken place. It is not possible to report these replicated findings here nor the comparison of the effects produced by the Delay health visitors before and after training. The data for these comparisons are still being coded.

3. MEASURES TO BE REPORTED

For the purposes of this preliminary account of our findings the results concerning changes in the following measures will be presented.

Helpfulness of the health visitor - a five point rating scale completed on the basis of mothers reports on the helpfulness of the health visitor in the recent past.

Total number of spontaneously mentioned problems - a count of the number of specific problems of behaviour identified by the mother during the interview before any prompting or systematic account was elicited. This ranged from 0 to a maximum of 5.

Behavioural Screening Questionnaire Score - total score out of 24 on this standardised and widely used measure of behavioural disturbance in young children (Richman and Graham 1971, Richman, Stevenson and Graham 1975).

Mother's and father's irritability with the child.

Mother's and father's frequency of smacking the child.

Mother's and father's fear of loss of self-control with the child.

All of the above six measures are based upon ratings made during the semi-structured interview with the mother. Note that ratings made concerning father's behaviour are based upon mother's reports; it is to be expected that this would introduce some bias in the ratings (see Stevenson and Fielding 1985, Graham and Stevenson 1983). For a full account of the semi-structured interview technique see Richman, Stevenson and Graham (1982).

4. RESULTS

a) Behaviour problems in the population

The prevalence rates of individual items of difficult behaviour and for overall behaviour problems is given in Table 1.

As with previous studies somewhere near 20% of the population show a significant degree of problem behaviour at three years of age. Some of these behaviours are strongly related to maturity - especially those concerned with sphincter control. Some are found more frequently than others; after complaints over the high activity level of 3 year olds, problems with sleep disturbance are the most common.

These results simply reinforce the notion that many mothers describe their preschool children as showing problematic behaviour. What is the evidence that these problems are not simply transient difficulties reflecting recent events and experiences at home and which are therefore likely to improve spontaneously? Some estimate of the degree of continuity of problems over a 6 month interval can be obtained from the repeated assessment made on the BCL for 94 children in the present study. Table 2 presents the onset rate

of problems, i.e. the percentage of the children who did not show a problem at first assessment who were reported as having the problem six months later. The stability of problems is expressed as the percentage of children showing a problem at first assessment who still showed the problem six months. With the exception of day wetting all the items of behaviour show significant short-term stability over this 6 month period later. In the absence of intervention, problems in the preschool child do not spontaneously improve to any significant extent, at least in the short term.

Other data has shown that they also show marked continuity into middle childhood (Richman, Stevenson and Graham, 1982).

b) Efficacy of the health visitor training

The preliminary results in the present paper are restricted to comparisons of change in the child's behaviour, parental reactions to the child and ratings of health visitor helpfulness. These changes can be compared in a number of ways. Firstly changes in the families actively managed by trained health visitors can be compared to those found in families with similar characteristics from the case loads of control health visitors. These intervention and control families are matched with respect to sex of child, BSQ score and age. Secondly the intervention cases can be compared with non-intervention families from the trained health visitor case loads. This comparison has the advantage that the same health visitor is dealing with both groups but has the disadvantage that it is possible that the health visitor selects for intervention families and children that are more likely to improve in any case. Lastly the comparison in changes found in all families assessed on the case loads of trained and control health visitors can be compared. Such an analysis can identify whether the

training has had a beneficial effect on the health visitors management of the children with difficult behaviour on her case load. If such a generalised effect was found it would provide very strong support for the value of the training provided.

These changes have been analysed using a number of statistical approaches, i.e. ANOCOVA using pre-test measures as covariates, univariate repeated measures ANOVA, multivariate repeated measures ANOVA (MANOVA) and t-test comparisons of mean change scores. All these analyses indicated similar differences between the trained and control health visitors. For ease of exposition mean changes and associated t-tests are presented in the tables and MANOVA results discussed in the text.

The results in Table 3 and subsequent tables have been scaled so that positive changes indicate an improvement. It can be seen that the only measure to show a significant difference is the mother's rating of 'helpfulness of the health visitor'. A repeated measures MANOVA on these data failed to demonstrate a significant effect of training on status and time for these 9 variables ($F = 0.95$, d.f. = 9,35, n.s.).
This would be indicated by a significant interaction between "training" and "time". That is if the changes in scores over time in the repeated MANOVA were significantly different for the 'train' or 'control' health visitors.

However, a comparison between those cases where trained health visitors actively intervened and those non-intervention cases from their own caseloads did show an interaction term approaching significance ($F = 1.97$, d.f.= 9,45, $p = .065$). A similar result was obtained when changes in these 9 variables for the total case loads of trained and control health visitors were compared ($F = 1.84$, d.f. = 9,104, $p = .069$).

These results indicate that although there may be a significant effect on those families experiencing intervention from a trained health visitor compared to those families not receiving intervention, this could be due to selection of cases for intervention by the trained health visitors. However, there is also an indication that the impact of training may also be detected when all the nominated cases for the trained and control health visitors are compared. That is the impact of training may be apparent not only for cases experiencing active intervention by the health visitors, but more widely throughout her caseload of difficult children.

It would not be expected that all cases actively managed by trained health visitors would equally benefit from such an experience. Indeed previous studies such as Rickel and Lampi (1981) indicate that aggressive children may show less change than other children. An analysis of the changes along the above lines has been conducted for two different groups of children: those showing initial sleep or eating problems and those showing non-compliant, aggressive, destructive behaviours. In each case the children in these groups were classified by the problem that the mother identified as being the most difficult. Although these two groups comprise the majority of cases (sleeping/eating, 29.5%, and non-compliance 51.8%), a substantial minority are excluded from this analysis since they do not fall into either category (18.6%). This means that the number of cases in each treatment group is very small and the results of the analysis have to be taken as preliminary and tentative.

Table 4 presents the t-test comparison of changes in matched cases from the control health visitors and the intervention families from the trained health visitors, where sleep or eating were the most difficult problems. With the exception of the 'mother's frequency of smacking the child' the

intervention sleep/eating cases showed more improvement. In only one case did this approach significance, i.e. 'helpfulness of health visitor'. A repeated measures MANOVA on these data produced a non-significant result for the interaction between training status and time ($F = 5.20$, d.f. = 9,3, $p = .101$). For these same cases however a very significant MANOVA was obtained when intervention cases and non-intervention cases from the trained health visitors were compared ($F = 5.58$, d.f. = 9,7, $p = .017$). These results give a preliminary indication that for sleep or eating problems health visitor training has increased their effectiveness. The results for non-compliance problems (Table 5) indicate no significant effect of training health visitors. There is one significant finding where 'mothers frequency of smacking the child' was significantly improved in the intervention cases. However, for the other measures the improvements in the matched control cases were just as large if not greater. The MANOVA results provide a similar picture both when matched cases are compared ($F = 0.51$, d.f. = 9,13, n.s.) and when non-compliant intervention and non-intervention cases are compared within the trained health visitor case loads ($F = 0.81$, d.f. = 9,19, n.s.).

5. CONCLUSIONS

These preliminary data from only the first stage of the evaluation study give some support for the notion that training health visitors in behaviour modification techniques can improve the effectiveness of their work with families of young children. Where significant differences are found they indicate that changes within the families of trained health visitors are greater than those for control health visitors. There are no systematically significant effects across all the three main comparisons, i.e. between matched cases from trained and control health visitors,

between intervention and non-intervention cases within the trained group and between all the families assessed from the caseload of trained and control health visitors.

However, the direction of the effects and those approaching or reaching significance all indicate greater change being associated with training. Finally, there are some tentative indications to support the previously stated view that sleeping or eating problems are more likely to respond to health visitor intervention than more confrontational behaviour problems.

The initial findings from this study must be interpreted with caution. When the analysis of the data is complete there will be approximately double the number of intervention families to compare with controls. Also it will be possible to complete the crucial comparisons of changes achieved by the Delay group health visitors before training with those produced by the same health visitors after training. However, the findings presented here have confirmed our view that behaviour problems in preschool children are frequently found in the general population and do not spontaneously improve in the short-term. They also give some encouragement for us to expect that training health visitors to intervene using behavioural techniques will prove to be effective in giving mothers' help in changing their handling of difficult behaviour in their children. In this way we hope to be able to establish such training as a significant contribution to the prevention of more complex or entrenched behaviour disturbance in children.

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Appendix 1

TRAINING COURSE IN BEHAVIOURAL MANAGEMENT

The course comprised twelve sessions of one and a half hours each, held at weekly intervals with a gap of one month between the last two. The course was conducted by Geraldine Holt (a Senior Registrar in Child Psychiatry) at the West Middlesex University Hospital.

The course aimed to find a balance between providing theoretical knowledge of behaviour modification and teaching practical skills. It was recognised that many of the health visitors were going to work under minimal supervision following the course. By striking such a balance it is hoped that they will have a theoretical framework in which to integrate their new skills.

Various teaching methods were used: Standard texts were provided (Behaviour Treatment of Problem Children: A Practice Manual, Herbert 1981; Sleep Management Manual, Douglas and Richman, 1982) and other reading matter was recommended.

: lectures

: there was an emphasis on active participation, and homework was set.

: experiences were shared, so that the health visitors and the seminar leader freely exchanged information and provided feedback.

The first three sessions concentrated on theoretical issues, the remaining sessions on clinical issues. The first comprised a discussion of the nature of behaviour therapy and of the various treatment

strategies which can be employed. Emphasis was placed on the use of positive reinforcement, extinction and modelling. The second deals with the assessment of a situation, so that a decision could be made about the suitability of a particular problem for behavioural intervention.

Each health visitor was asked to complete a problem profile of one of their clients and a baseline for the next session. The third session began with a discussion of this homework and then of how to set up a behavioural programme. Each health visitor was given a copy of the Sleep Management Manual for discussion at the following session, and were also instructed to start designing behavioural work; experiences are shared, feedback and guidance given. The move was towards greater independence. This was reflected by the gap of one month between the last two sessions.

Figure 1

Model of secondary prevention

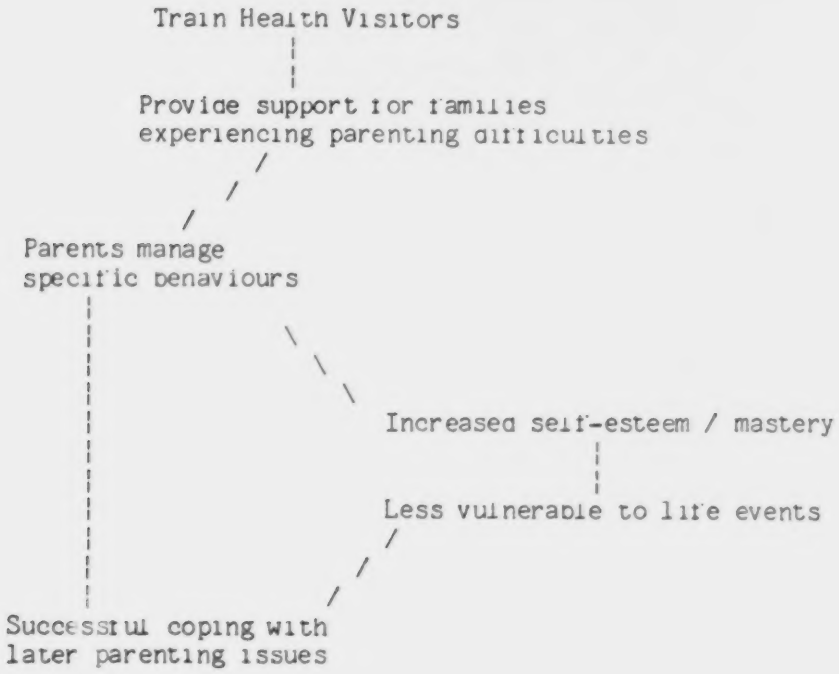
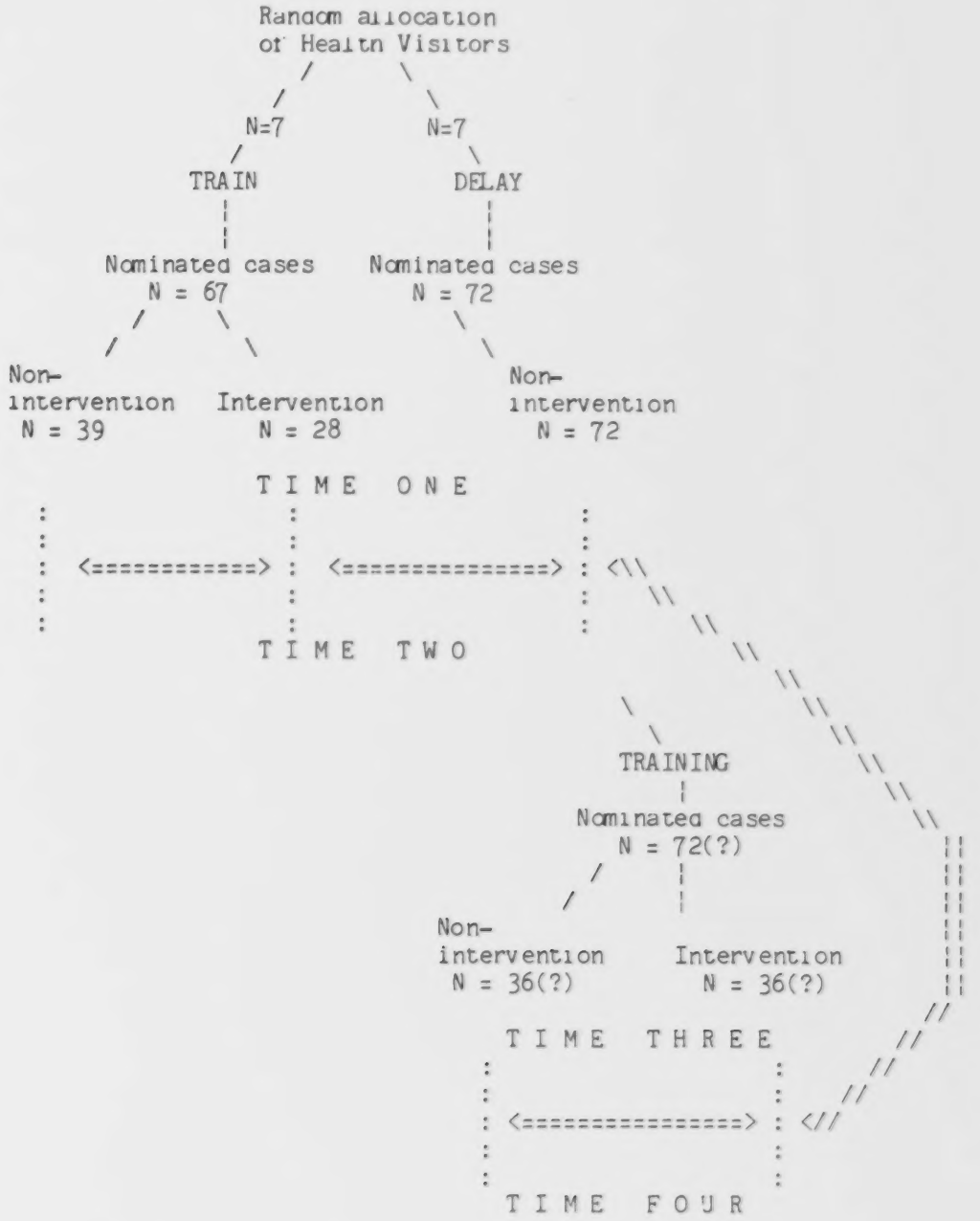

Train Health Visitors
Provide support for families experiencing parenting difficulties
Parents manage specific behaviours
Increased self-esteem / mastery
Less vulnerable to life events
Successful coping with later parenting issues

Figure 2

Design of the evaluation



* double arrows represent possible comparisons of behavioural changes

Table 1

Prevalence of items of problem behaviour in the population of 2:6 to 3:6 year olds (N = 563)

	%	
BCL Total score > 9	21	
Wet at night	30	*
Activity	20	
Sleeping with parents	17	
Night waking	12	
Eating	12	
Appetite	11	*
Bedtime	9	
Wet in day	8	*
Soiling	8	*
Play concentration	8	
Clinging	7	
Temper tantrums	7	
Attention seeking	6	
Management/non-compliance	6	
Worries	4	
Unhappy mood	2	
Fears	2	
Relationship with siblings	1	
Relationship with peers	1	

* items showing significant differences with age in the sample (appetite problems more frequent in the older groups, all the others less frequent)

Table 2

Stability and rate of onset of problems over a 6 month period (N = 94)

	* Onset rate	** Stability	
	%	%	
Appetite	34	69	
Eating	43	83	
Wet at night	4	56	
Wet in day	7	17	ns +
Soiling	2	29	
Bedtime	17	48	
Night waking	29	58	
Sleeping with parents	28	65	
Activity	6	43	
Play concentration	36	65	
Clinging	20	53	
Attention seeking	22	57	
Management/non-compliance	20	73	
Temper tantrums	33	84	
Unhappy mood	5	36	
Worries	18	50	
Fears	30	57	
Relationship with siblings	7	42	
Relationship with peers	14	62	

* onset rate = % of those without the problem at T1 who show it at T2

** stability = % of those with the problem at T1 who still show it at T2

+ all other items are highly significantly stable over time

NB a problem here can either be mild or marked

Table 3

Mean changes comparing intervention families of trained health visitors with matched families from control health visitors

	Matched Control N	Matched Control Mean Change	Intervention N	Intervention Mean Change	t	p
Helpfulness of Health Visitor	27	-0.41	28	0.25	2.30	.026
Total number of spontaneously mentioned problems	28	0.64	28	1.29	1.65	ns
Behaviour Screening Questionnaire score	28	1.36	28	1.36	0.00	ns
Mother's irritability with child	27	0.22	28	0.43	0.76	ns
Father's irritability with child	24	0.13	23	0.17	0.15	ns
Mother's frequency of smacking child	27	-0.37	28	-0.07	0.99	ns
Father's frequency of smacking child	24	0.04	23	0.47	1.29	ns
Mother's fear of loss of self-control	26	0.19	28	0.39	0.59	ns
Father's fear of loss of self-control	24	-0.08	21	0.29	1.22	ns

NB the standard deviation of all these change scores is approximately 1.00.
The exception is the BSQ where it is 3.00.
They have been scored such that +ve = improvement.

Table 4

Mean changes comparing intervention families of trained health visitors with matched families from control health visitors where children show sleep or eating as their most difficult problem

	Matched Control		Intervention			
	N	Mean Change	N	Mean Change	t	p
Helpfulness of Health Visitor	7	0.14	9	1.00	1.98	.076
Total number of spontaneously mentioned problems	7	0.71	9	1.67	1.35	ns
Behaviour Screening Questionnaire score	7	1.29	9	1.78	0.27	ns
Mother's irritability with child	7	-0.43	9	0.33	1.43	ns
Father's irritability with child	7	-0.14	8	0.00	0.22	ns
Mother's frequency of smacking child	7	0.43	9	-0.33	1.12	ns
Father's frequency of smacking child	7	-0.43	8	0.25	1.08	ns
Mother's fear of loss of self-control	7	0.25	8	0.56	0.35	ns
Father's fear of loss of self-control	7	-0.29	6	0.17	0.71	ns

NB the standard deviation of all these change scores is approximately 1.00.
The exception is the BSQ where it is 3.00.
They are all scored such that +ve = improvement.

Table 5

Mean changes comparing intervention families of trained health visitors with matched families from control health visitors where children show aggression or non-compliance as their most difficult problem

	Matched Control		Intervention			
	N	Mean Change	N	Mean Change	t	p
Helpfulness of Health Visitor	13	-0.62	14	-0.07	1.44	ns
Total number of spontaneously mentioned problems	14	0.71	14	0.86	0.30	ns
Behaviour Screening Questionnaire score	14	1.36	14	0.57	0.61	ns
Mother's irritability with child	13	0.54	14	0.57	0.08	ns
Father's irritability with child	11	0.18	12	0.17	0.03	ns
Mother's frequency of smacking child	13	-0.62	14	0.28	2.50	.019
Father's frequency of smacking child	11	0.36	12	0.58	0.50	ns
Mother's fear of loss of self-control	12	0.17	14	0.29	0.23	ns
Father's fear of loss of self-control	11	0.09	12	0.08	0.02	ns

NB the standard deviation of all these change scores is approximately 1.00.
The exception is the BSQ where it is 3.00.
They are all scored such that +ve = improvement.